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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/656,794

09/05/2003

Marco Mauro

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07/28/2005

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EXAMINER

NGUYEN, THU V

ART UNIT

PAPER NUMBER

3661

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/656,794

Applicant(s)

MAURO ET AL.

Examiner

Thu Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 5 and 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

The amendment filed on May 10, 2005 has been entered. By this amendment, claims 10-12 are added, all claims 1-12 are pending in the application. Non-elected claims 5-6 are withdrawn from consideration

#### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrew et al (US 6,438,484) in view of Weisman, II et al (US 2002/0099496).

As per claim 1, 10 Andrew teaches a method for diagnosing a vehicle compressed system, the method comprises: acquiring a number of operating data items associated with operation of the system (col.5, lines 24-37); processing the acquired operating data items and storing the data items to create a database (abstract); examining the data items to determine malfunction situations of the compressed-air generating system (col.6, lines 7-30, lines 54-59). Andrew does not explicitly teach acquiring operating data between turn-on and subsequent turn off of the system, and examining the database when the system is turn off. However, since Weisman suggests gathering data to construct historical information (para 0034, 0064) and

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further teaches that the gathered data can be used for assisting personnel performing routine maintenance (para 0034), Weisman obviously encompasses teaching gathering data and storing data from several cycle (turning off then turning on) of operation of the vehicle, further, since the gathered data can be used to assist personnel to perform maintenance, the stored data obviously can be used when the vehicle is not operating. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to obtain data in several cycles of operation in the compressor of Andrew, and to perform diagnosing the data when the vehicle is turned off in order to provide continuous detection of malfunction of the compressor when the compressor is operating and to facilitate diagnosing the vehicle when the vehicle is idle for maintenance purpose.

As per claim 2, Andrew teaches obtaining the air temperature (col.5, line 34). Moreover, since Andrew teaches that it would have been obvious to measures other interested parameters (col.5, lines 27-37), and since interested parameters such as the speed of the compressor, the temperature of the cooling fluid would have been well known parameters, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to also includes well known temperature and speed sensors to the system of Andrew in order to further checking the factors that affects the functionality of the compressor.

As per claim 11-12, since Weisman teaches providing historical information to assist routine maintenance, and since routine maintenance is well known to include judging potential

malfunction or trend toward malfunction, Weisman obviously encompasses teaching providing potential malfunction o trend toward malfunction condition as claimed.

3. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrew et al (US 6,438,484) in view of Weisman, II et al (US 2002/0099496) and further in view of Lee et al (US 5,680,767) and Kobayashi et al (JP 55-096320).

As per claim 3, Lee teaches including fluid temperature exchange to the compressor (col.2, lines 59-63), and Kobayashi teaches calculating the temperature difference between the compressed air temperature and the cooling fluid temperature (constitution). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement a heat exchanger at the output of the compressor of Andrew and to calculate the temperature difference between the compressed air temperature and the water temperature as taught by Kobayashi in order to determine closing valve status and to detect malfunction of the closing valve.

As per claim 4, Andrew teaches memorizing different number of operating states as a function of the acceleration and temperature of the engine (col.7, lines 8-20; col.8, lines 8-30). Andrew does not explicitly teach using the temperature difference and the speed for defining the operating states. However, determining temperature difference and the speed of the engine would have been well known parameters for use in monitoring the functionality of the gas

turbine including compressed air generating system, using the well known parameters for defining operating state of the vehicle would have been both known and obvious design choice.

4. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrew et al (US 6,438,484) in view of Weisman, II et al (US 2002/0099496) and further in view of Olejack et al (US 6,138,081).

As per claim 7, Olejack suggests defining different regions corresponding to different operating states of the turbine engine, and determining the location of the data items within the region (col.2, lines 62-67; col.8, lines 17-31).

As per claim 8-9, Andrew teaches determining when a maximum value associated with an acquired operating state exceed an operating state (col.6, lines 54-59). Furthermore, determining a measured parameter as a function of time would have been well known. Moreover, since Andrew teaches the capability of determining operability and stall conditions and issuing alarm accordingly (col.6, lines 54-59), and since it is well known that the operability and stall conditions are normally define in predetermined zones of normal and abnormality, determining if the obtained data is within the normal or alarming region would have been obvious.

#### ***Response to Arguments***

Applicant's arguments with respect to claim1 have been considered but are moot in view of the new ground of rejection.

In response to applicant's argument on page 8, last paragraph, refer to discussion in claim 1 in the claim rejection 35 USC 103 above. Kobayashi does teach calculating the temperature difference by comparing the air temperature with the water temperature (abstract-constitution).

In response to applicant's argument on claim 7 and 9, refer to discussion in claim 1 in the claim rejection 35 USC 103 above. Further, refer to the 35 USC 103 on claims 7-9 above for the limitation including different regions of the operation of the vehicle and the determination of the malfunction of a system.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Nguyen whose telephone number is (571) 272-6967. The examiner can normally be reached on T-F (7:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 14, 2005

  
**THU V. NGUYEN**  
**PRIMARY EXAMINER**